



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,454	02/07/2001	Fumin Lu	8988.3826	3410
22235	7590	12/07/2004	EXAMINER	
MALIN HALEY AND DIMAGGIO, PA			BOYD, JENNIFER A	
1936 S ANDREWS AVENUE			ART UNIT	
FORT LAUDERDALE, FL 33316			PAPER NUMBER	

1771

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,454

Applicant(s)

LU, FUMIN

Examiner

Jennifer A Boyd

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed September 9, 2004, have been entered and have been carefully considered. Claims 2, 4 and 6 are cancelled, claims 1, 3, 5 and 7 – 8 are amended and claims 1, 3, 5 and 7 – 8 are pending. In view of Applicant's Amendments, the Examiner withdraws the 35 U.S.C. 112, 2nd rejection as detailed in paragraphs 5 – 6 of the Office Action mailed March 1, 2004. In view of Applicant's amendments replacing the term "composed of" with "consisting of" which narrows the scope of the claims, the Examiner withdraws all previously set forth rejections as detailed in paragraphs 7 – 10 of the previous Office Action dated March 1, 2004. However, after an updated search, additional prior art has been found which renders the invention as currently claimed unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

Art Unit: 1771

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morini et al. (US 5,476,911).

Morini et al. is directed to crystalline propylene polymers having high melt flow rate values (Title). Morini teaches a crystalline propylene polymer having a melt flow rate ranging from 600 to 1000 g/min (Abstract). Morini teaches that the polymer may be used to create a nonwoven web such as a spun-bonded web (column 1, lines 15 – 20). Morini teaches that the crystalline propylene polymers have a narrow molecular weight distribution allowing the fibers to be produced with fast spinning processes (column 3, lines 25 – 30).

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). It should be noted that it is the position of the Examiner that the filament spinning rate does not have a material affect on the product, therefore, the limitation of generating a filament at a speed above 4,000 meters per minute is not given any patentable weight at this time.

5. Claim 7 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bailey et al. (WO 96/29460).

Art Unit: 1771

Bailey is directed to improved carpet construction and carpet backings for the same (Title). Bailey teaches an adhesive binder (page 10, lines 10 – 15). Bailey teaches that the binder can comprise preferably low density polyethylene because of its melting characteristics and the performance properties such as tuft bind and fuzz resistance (page 10, lines 30 – 35). Bailey teaches that the adhesive binder preferably has a high melt index or melt flow rate; the melt index or flow rate is preferably greater than 60 grams per 10 minutes (page 11, lines 5 – 10). It should be noted that Bailey does not provide an upper limit to the melt flow index, therefore, the melt flow index of Bailey and the Applicant overlap. Bailey teaches that the binder is preferably in the form of a nonwoven fabric such as spunbonded fabric (pages 11 and 12).

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

6. Claim 3 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bansal et al. (US 6,548,431).

Bansal is directed to a process for making a nonwoven sheet of substantially continuous melt spun fibers by extruding melt spinnable polymer containing at least 30% by weight of low intrinsic viscosity polyethylene terephthalate, drawing the extruded fiber filaments at a rate of

Art Unit: 1771

6000 m/min, laying the fiber filaments down on a collection surface and bonding the fiber filaments together to form a nonwoven sheet. Bansal teaches that the intrinsic viscosity is less than 0.62 dl/g (Abstract). According to *Complete Textile Glossary* by Celanese Acetate, a spunbonded product is a nonwoven fabric formed by filaments that have been extruded, drawn and then laid on a continuous belt. It should be noted that Bansal discusses each of those elements, therefore, it is the position of the Examiner that the nonwoven web of Bansal is a spunbonded web.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (US 5,688,468) in view of Ofosu et al. (US 6,268,302).

Lu teaches a process for producing a non-woven polymeric fabric web such as a spunbonded web, having filaments of 0.1 to 5 denier with equivalent production rate (Abstract). The filaments are drawn from the drawing unit and merged on the surface of a web forming table

Art Unit: 1771

(column 8, lines 57 – 67 and column 9, lines 1 – 12). It is known in the art that nylon including nylon 6 is conventionally melt spun (column 1, lines 39 – 42).

Lu teaches the claimed invention but fails to teach that the nylon 6 has a low relative viscosity, specifically below 2.2.

Ofosu et al. teaches a multi-layer spunbonded nonwoven fabric with superior strength and softness (Abstract). Ofosu notes that it is believed that small fibers made from lower viscosity polymers enable more polymer to flow at the bond points during bonding, thus ensuring a strong bond, yet the web retains the advantage of softness which smaller fibers provide (column 5, lines 50 – 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a low viscosity polymer as suggested by Ofosu in the nylon 6 spunbonded fabric of Lu motivated by the desire to ensure a strongly bonded soft nonwoven material.

Lu in view of Ofosu teaches the claimed invention except fails to disclose that the relative viscosity is below 2.2. It should be noted that relative viscosity is a result effective variable. For example, the relative viscosity directly affects the bond strength of the resulting nonwoven fabric. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create the nonwoven fabric with nylon 6 having a relative viscosity below 2.2 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the relative viscosity of the polymer in order to create a nonwoven fabric with optimal bond strength.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). It should be noted that it is the position of the Examiner that the filament spinning rate does not have a material affect on the product, therefore, the limitation of generating a filament at a speed above 4,000 meters per minute is not given any patentable weight at this time.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al. (WO 96/29460).

Bailey discloses the claimed invention except that the spunbonded fabric can be a multiple layer fabric consisting of layers of the filaments of the same resins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a fabric using multiple layers of the adhesive spun-bonded fabric since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In the present invention, one would have been motivated to use multiple layers of the adhesive spun-bonded fabric in order to increase the strength of the adhesive spun-bonded material.

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983).

Response to Arguments

9. Applicant's arguments with respect to claims 1, 3, 5 and 7 – 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 03-146756 A teaches the production of a polyamide fiber nonwoven fabric (Title). JP 03-146756 A teaches the use of a polyamide resin having a relative viscosity of 1.6 – 2.5 to create a meltblown material. JP 03-146756 A teaches that the polyamide resin preferably comprises nylon 6 (Abstract). JP 03-146756 A fails to disclose that the polyamide resin could be used to create a spun-bonded fabric at a filament speed above 4,000 meters per minute.

Art Unit: 1771

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

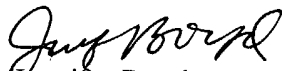
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Boyd
November 18, 2004


TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700